REMARKS/ARGUMENTS

After entry of this amendment, claims 1, 9-12 and 27-31 are pending in the present application. Claims 1, 9, 10, and 12 have been amended to incorporate specific hybridization conditions, which are disclosed on page 14, lines 20-23 of the specification. The claims are further amended based on the claims suggested by the Examiner on section 10 (pages 11-13) of the Office Action. New claims 27-31 are also based on the claims suggested by the Examiner. The claim amendments do not introduce new matter.

Information Disclosure Statement

The Examiner's courtesies in obtaining a copy of the Kruger reference, which was inadvertently not provided with the IDS mailed March 29, 2007, are gratefully acknowledged.

Rejections under 35 U.S.C. § 112, second paragraph

Claims 1-4 and 9-15 were rejected for allegedly being indefinite for use of the term "stringent conditions." To expedite prosecution and as suggested by the Examiner, the claims have been amended to recite specific hybridization wash conditions disclosed in the specification on page 14, lines 20-23. Applicants specifically reserve the right to pursue the un-amended claims in one or more subsequent applications. Withdrawal of the rejection is respectfully requested.

Rejections under 35 U.S.C. § 112, first paragraph

Claims 1-4 and 9-15 stand rejected for allegedly lacking adequate written description because the claims are drawn to genera of nucleic acid sequences as encompassed by the term "gene". As suggested by the Examiner, but without acceding to the basis of this rejection, the claims have been amended to refer to polynucleotides, rather than genes. Withdrawal of the rejection is respectfully requested.

Rejections under 35 U.S.C. § 102(b)

Claims 3-4 stand rejected for allegedly being anticipated by Millonig (2000). To expedite prosecution and without prejudice to pursuing the claims in one or more subsequent

applications, these claims have been cancelled. Withdrawal of the rejection is respectfully requested.

Claims 1-4, 9 and 13-15 stand rejected for allegedly being anticipated by Smidt (2000). Smidt allegedly teaches methods of using an Lmx1b polynucleotide within the scope of the claims to detect dopaminergic neurons. This rejection was based on the Examiner's broad reading of the term "stringent conditions." Since, as noted above, the claims have been amended to recite specific hybridization wash conditions, the rejection is rendered moot. In addition, claims 2-4 and 13-15 have been cancelled.

Rejections under 35 U.S.C. § 103(a)

Claims 1-4, 9-10 and 12-15 stand rejected for allegedly being obvious over Smidt (2000) in view of Holzschuh (2001). Smidt is cited for teaching a method of using an Lmx1b polynucleotide, but fails to teach the addition step of detecting the DAT gene, as recited in claims 10 and 12. Holzschuh allegedly provides the teaching missing from Smidt. As noted above, however, the claims have been amended to clarify that the polynucleotides being detected are distinct from the Lmx1b genes described in Smidt. Since these polynucleotides are neither disclosed nor suggested by the Smidt, the combination with Holzschuh cannot render the pending claims obvious. Withdrawal of the rejection is respectfully requested.

Allowable Subject Matter

Applicants note with appreciation that the Examiner has identified allowable subject matter on pages 11-13 of the Office Action. As noted by the Examiner, the prior art does not teach that Lmx1a is expressed in the ventral midbrain or that it is expressed in dopaminergic neurons. Thus, the claims now explicitly recite that the sample comprises cells from the ventral midbrain.

Applicants have generally followed the suggested claim language for claims 1, 9, 10, 11 and 12 and have cancelled claims 2-4 and 13-15, as suggested. New claims 27-31 are based on the suggested claims, except that the term "a polynucleotide that encodes one or more proteins" has been slightly changed.

Applicants note, however, that the Examiner's proposed claims relate to the method of using a polynucleotide encoding a "full-length protein" as a probe. This is apparently based on the Examiner assertion that *"[g]iven the long stretches of identity across the entirety of the sequences, the nucleic acids from Smidt will inherently hybridize to nucleic acids encoding SEQ ID NO:14"* (page 8, lines 10-12). It should be noted that the alignment shown on pages 9 and 10 of the Office Action is an alignment of ***an amino acid sequence vs. a nucleotide sequence***. Due to the degeneracy of the genetic code, however, such an alignment does not identify any particular ***nucleotide sequence*** in the Smidt that would hybridize under the specified conditions to SEQ ID NO: 13. The claims no longer refer to sequences encoding SEQ ID NO: 14, which formed the basis of the current rejection. As noted above, claims 1, 9, 10, 11, and 12 have been amended to recite specific stringent hybridization conditions under which the polynucleotides of Smidt will not hybridize to SEQ ID NO:13. Indeed, the nucleotide sequences of AF078166 and SEQ ID NO:13 share only a limited identity. Thus, the currently claimed invention is novel and nonobvious over the polynucleotides of Smidt.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested. If a telephone conference would expedite prosecution of this application, the Examiner is invited to telephone the undersigned at 415-576-0200.

Respectfully submitted,

/Kevin Bastian/

Kevin Bastian
Reg. No. 34,774

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, Eighth Floor
San Francisco, California 94111-3834
Tel: 415-576-0200
Fax: 415-576-0300
Attachments
KLB:dlh
62387548 v1